

Ostrich plumes, and the commercial terminology and points used in valuing plumes. Chapter four considers the methods of procuring the plumes from the birds and other chapters relate to the commerce in Ostrich plumes, the domestication and care of the birds, and the extension of Ostrich farming. When we learn that in 1911 over 800,000 pounds of Ostrich plumes were exported from Cape Colony, valued at about ten million dollars, and that Ostrich raising is now going on in Transvaal, Australia, Algeria, Tunis, Soudan, Madagascar, Egypt and the United States, we begin to realize the magnitude of this business, and more than ever the absolute lack of necessity for tolerating in any way, shape or form the traffic in wild bird plumage. M. Menegaux has furnished us with a valuable work of reference which can be read with profit by all interested in the feather trade, either commercially or in its relation to bird protection—W. S.

Dubois' List of the Birds of Belgium.¹— Dr. Dubois prepared in 1885 a list of Belgian birds of which this is a 'new edition.' Eight names in the old list are cancelled and 25 species added during the twenty-seven years that have intervened making a total of 353. In comparing the avifauna of Belgium with that of any of the United States it may be of interest to state that Dr. Dubois finds that 70 species are resident, 57 summer residents, 39 winter visitants, 49 regular transients and 123 irregular or accidental. To these he adds as a separate category, 15 climatic varieties—surely a severe reflection upon the 'subspecies.' Dr. Dubois is very conservative in matters of nomenclature adhering to the twelfth edition of Linnæus, and rejecting tautonomy and trinomials, his 15 climatic varieties being designated by the old-fashioned "var."—W. S.

McAtee on the Relation of Birds to Grain Aphides.²— Mr. McAtee presents an elaborate report of a week's study of birds in connection with an outbreak of Grain Aphides near Winston Salem, N. C. Of the species present which fed upon the Aphides the following were the most important and in the order named, Field Sparrow, Goldfinch, Chipping Sparrow, Savannah Sparrow, Song Sparrow, Vesper Sparrow, and Snowbird. By estimating the number of birds present on the area of 100 acres which was under observation and the average number of Aphides found in the stomachs examined, Mr. McAtee concludes that these birds devoured about a million aphides a day, while migrants passing through at the time consumed as many more. It is interesting to see that all the species cited above are Fringillidæ, birds not usually credited with this sort of diet.—W. S.

Beal on Our Meadowlarks in Relation to Agriculture.³— The distribution and economic status of *Sturnella magna* and *S. neglecta* are here

¹ Nouvelle Revue des Oiseaux Observés en Belgique, par Le Dr. Alph. Dubois. Mem. Soc. Zool. France. Tom. XXV, 1912, pp. 162-209.

² Relation of Birds to Grain Aphides. By W. L. McAtee. Year book U. S. Dept. of Agriculture for 1912. pp. 397-404, 3 figs.

³ Our Meadowlarks in Relation to Agriculture. By L. Beal. Yearbook U. S. Dept. of Agriculture, 1912. pp. 279-284.

summarized on the basis of data and stomach material in possession of the Biological Survey. Five-sixths of the animal food of these birds proves to consist of beetles, caterpillars and grasshoppers which far more than counterbalances the occasional and usually local consumption of grain, peas, etc.—W. S.

Economic Ornithology in recent Entomological Publications.—

The output of publications of all branches of the Department of Agriculture has been abnormally small during the present calendar year. Hence we find that only two of those of the Bureau of Entomology contain noteworthy mention of the bird enemies of insect pests. The fruit tree leaf-roller (*Archips argyrospila*) has caused considerable loss to fruit growers in Colorado, New Mexico, and New York. Mr. John B. Gill, the author of the bulletin on this pest states¹ that several species of birds have been observed feeding on the larvæ. These birds are the Bluebird, Western Robin, Catbird, Redwinged Blackbird, Orchard Oriole, Kingbird, Phœbe and the English Sparrow.

In a Farmers' Bulletin² on the common white grubs, larvæ of May beetles, and well known serious pests, Mr. John J. Davis gives birds first place among the natural enemies. The Biological Survey has found adults or larvæ of May beetles in the stomachs of more than 60 species of birds, a fact mentioned by Mr. Davis. Some of this author's original testimony is as follows:

"Probably the most important of these enemies are the birds, especially crows and crow blackbirds. Fields of timothy sod have been literally overturned by crows in their search for grubs, and in some fields the grubs were almost exterminated by them. Crows have often been observed following the plow in infested fields, eagerly picking up every grub that was unearthed. Mr. Henry Holzinger, of Lancaster, Wis., said that Crow Blackbirds followed the plow in great numbers where he was turning over a sod field in the spring of 1912. In one instance he watched a single blackbird eat many grubs, apparently its full capacity, and then gather as many as it could hold in its beak and fly away. In this case the bird destroyed in all 20 grubs in about 1 or 2 minutes. This habit of eating a large number of grubs and then flying away with its beak full was reported as a common occurrence with the blackbird. Mr. Fred Nelson, of Tabor, S. Dak., stated that his attention was directed to the unusual abundance of grubs in his field in the fall of 1911 by the blackbirds which came in flocks and followed him as he plowed. He soon learned that they were gathering grubs. After picking up several grubs each bird would fly back to the trees a short distance away and soon return. Thus there was a continuous flight from the trees to the ground and from the ground to the trees. Besides crows and blackbirds practically all of our common birds feed on white grubs or their adult forms, the May beetles." — W. L. M.

¹ Bulletin 116, Part V, U. S. Bureau of Entomology, March 12, 1913, p. 102.

² No. 543, U. S. Department of Agriculture, July 18, 1913.